Preface[1]

This volume consists of one expository paper and two research papers, as follows:

1. T. Hirai, A. Hora and E. Hirai, Introductory expositions on projective representations of groups (referred as [E]);

2. T. Hirai, E. Hirai and A. Hora, Projective representations and spin characters of complex reflection groups $G(m,p,n)$ and $G(m,p,\infty)$, I (referred as [I]);

3. T. Hirai, A. Hora and E. Hirai, Projective representations and spin characters of complex reflection groups $G(m,p,n)$ and $G(m,p,\infty)$, II, Case of generalized symmetric groups (referred as [II]).

Since Schur's trilogy on 1904, 1907 and 1911, many mathematicians studied projective representations of groups and algebras, and also of their characters. Nevertheless an introductory and expository article will serve to invite mathematicians to this interesting and important areas. In this connection, the first paper [E] collects introductory expositions, with a historical plotting, for the theory of projective representations of groups and their characters.

The second paper [I] treats general theory for projective (or spin) representations and spin characters of complex reflection groups
  $G(m,p,n)$ and $G(m,p,\infty) = \lim_{n\to\infty} G(m,p,n)$,
and clarifies the intimate relations between *mother groups*
  $G(m,1,n)$ and $G(m,1,\infty)$, $p=1$, called *generalized symmetric groups*,
and their *child groups* $G(m,p,n)$ and $G(m,p,\infty)$, $p|m$, $p>1$.

Also in the last one-third of the paper, we treat explicitly a case of spin type in connection with the case of non-spin type (i.e., the case of linear representations).

The third paper [II] treats spin irreducible representations and spin characters of generalized symmetric groups (mother groups) for other two spin types.

Each paper has its own Abstract and Introduction. References for research papers [I] and [II] are collected together at the end of [II], whereas those for the paper [E] remain at the end of [E] for convenience of readers, since they are chosen from historical and/or expository points of view and need not mixed up with many others for [I] and [II], very much specialized. We ask the readers to see the table of contents just below and each of Introductions for more detailed introduction to the volume.

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T. Hirai, A. Hora and E. Hirai